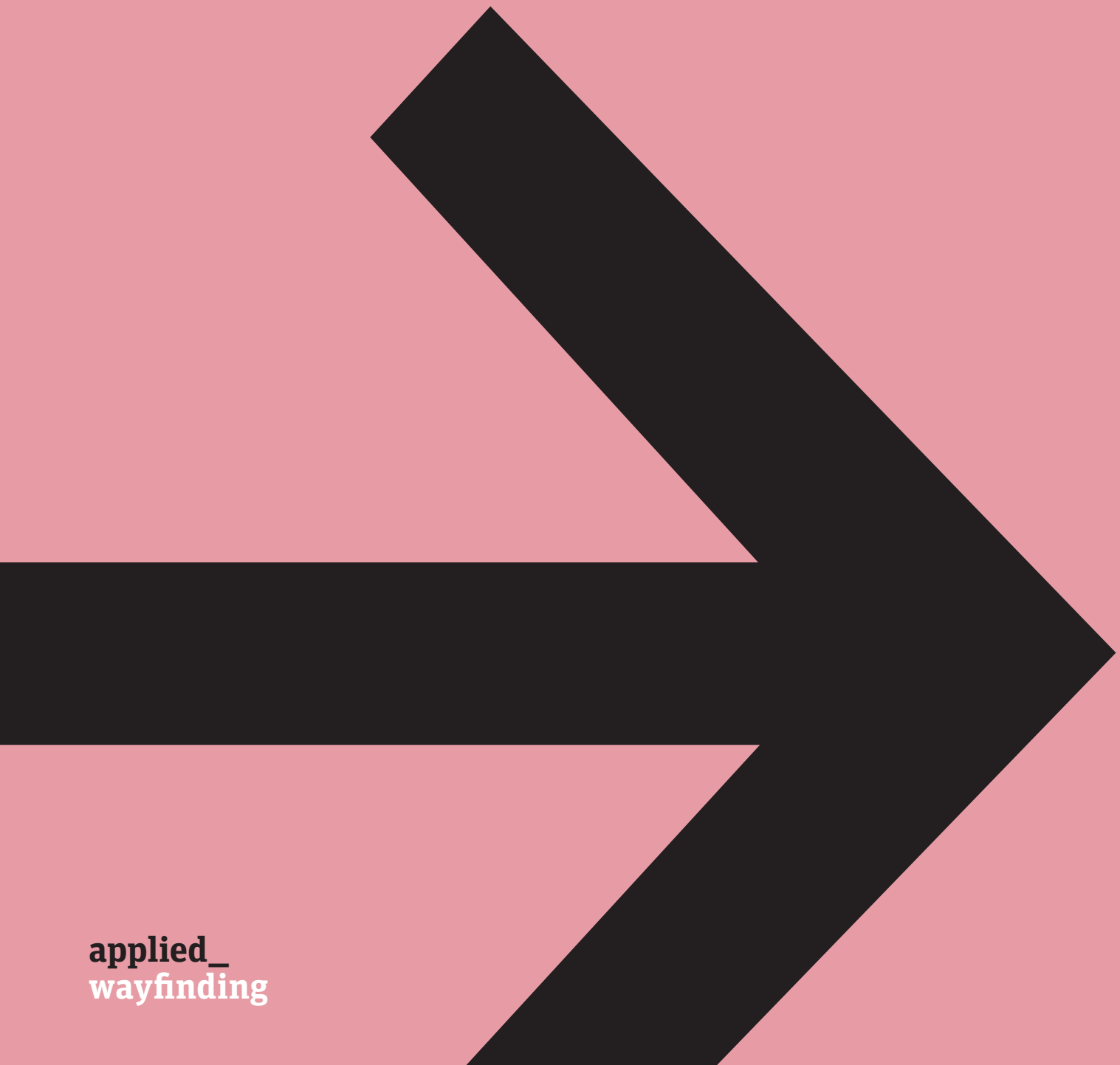
City of Portland, OR

City Wayfinding for Portland

Scoping Study Report Part 2: Project Development

August 2019



applied_
wayfinding

This report covers project costs and financing as Part 2 of a scoping study report on a potential city wayfinding project in Portland, Oregon.

The observations and recommendations contained in this report greatly benefited from the time and expertise of representatives from the funding stakeholders and other interests that were brought together by Travel Portland.

travel PORTLAND

PBOT
PORTLAND BUREAU OF TRANSPORTATION

OHSU

GO LLOYD
MOVING. CONNECTING. GROWING.

DOWNTOWN CLEAN & SAFE PORTLAND

PROSPER PORTLAND

Contents

1.1 Scope of report

This report is one of two that are the primary outputs of a scoping study into a new pedestrian wayfinding system in Portland.

This report is concerned with project development issues including, costs, funding and the tasks necessary to prepare a detailed project for implementation. It complements and should be read with the main report that focuses more particularly on wayfinding needs within Portland, a concept for a new system, and ways in which this concept could support city stakeholders and promote the city to visitors for the 2021 IAAF World Athletics Championships.

1.2 Limitations

A scoping report is a rapid assessment of needs, stakeholder interests and options intended to identify an agreed vision, objectives and priorities for more detailed work at a future stage.

The background research conducted for this project was necessarily limited to initial observations and insights that were discussed and validated by the project stakeholders. While this approach provides a structured and engaging way to produce consensus on central ideas and challenges, it cannot, and does not purport to provide detailed solutions or specific recommendations for implementation.

1.3 Who should read this report

The advice provided in this report is primarily intended for potential stakeholders in developing, funding and maintaining a city-wide pedestrian wayfinding project.

It includes reference to potential costs, sources of funding and other aspects of organizational management that are preliminary and should not be shared publicly without the consent of the relevant organizations who are referenced.

The main scoping study report describes the project concept and should be read in conjunction with this project development report.

2.1 Scoping study project

Travel Portland commissioned this scoping study with funding contributions from the Portland Bureau of Transportation (PBOT), Oregon Health & Science University (OHSU), GoLloyd District, Portland Downtown Clean & Safe District, and Prosper Portland.

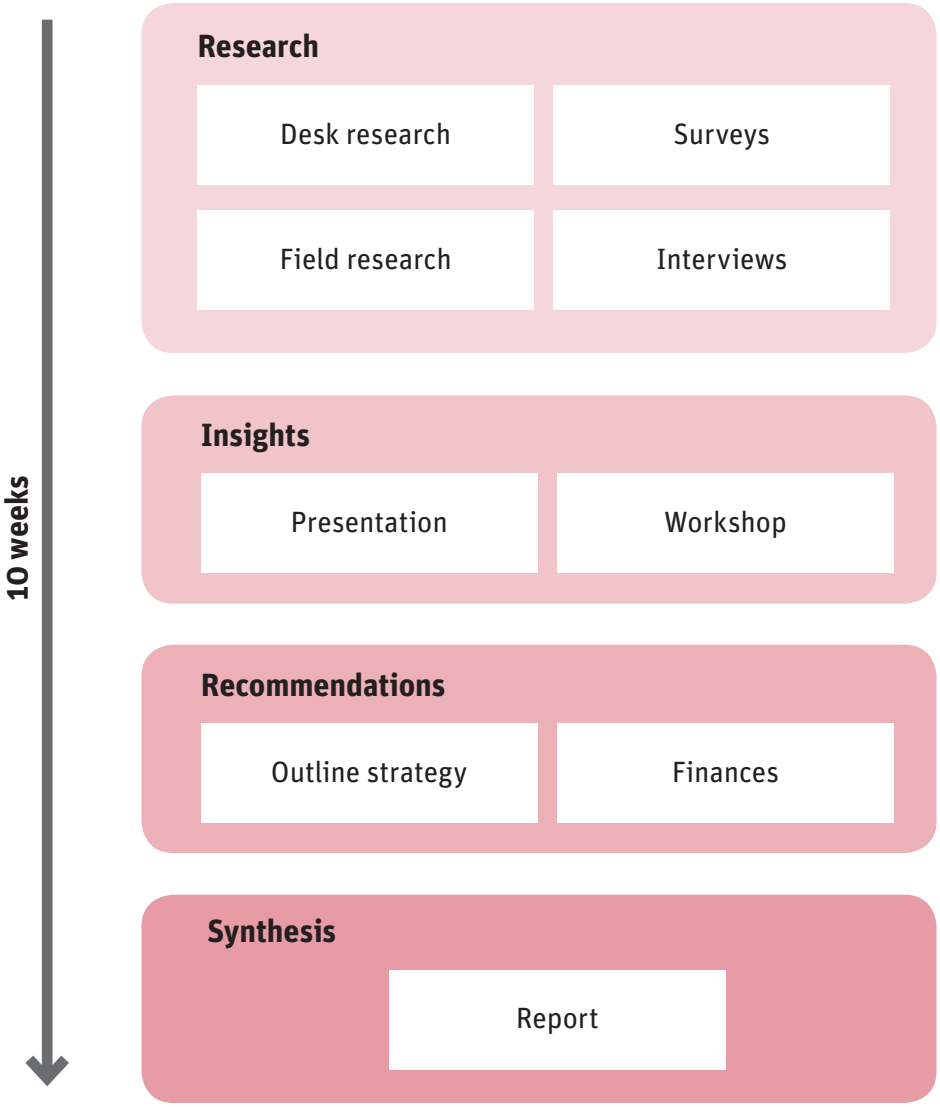
The goal of the scoping study was to assess wayfinding challenges and opportunities in Portland to propose a vision, objectives and principles for a comprehensive walking wayfinding project across the City.

As part of this assessment the study aimed to explain how a coordinated wayfinding system could add value to the City, its residents and visitors.

Part of the requested advice included how potential funding agencies could prepare a full project under a procurement exercise for detailed design and implementation proposals. To inform decision-makers, the scoping study also set out to provide examples of project cost and commentary on the management of a coordinated system signage, mapping and digital tools.

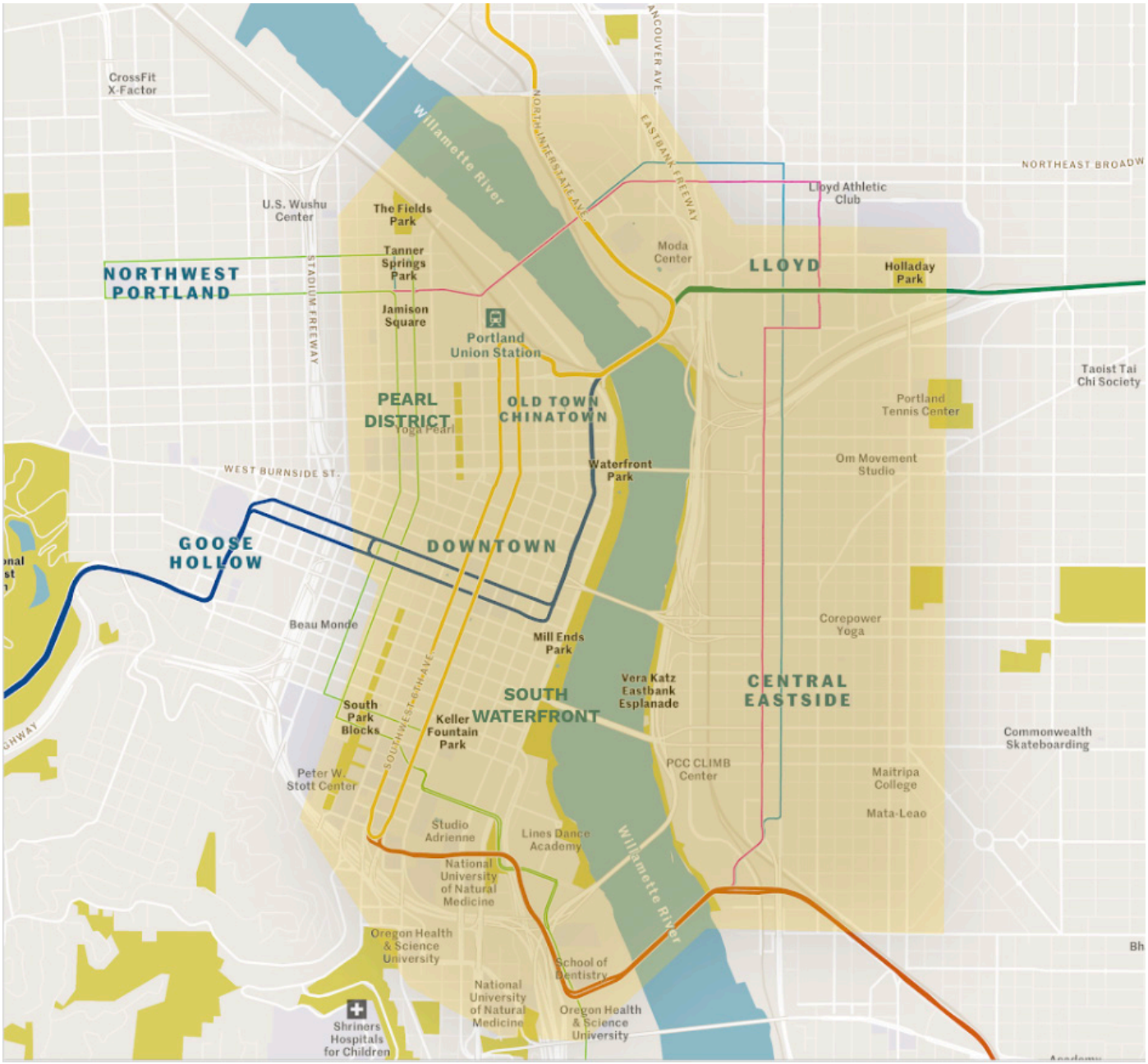
The major tasks in the 10-week scoping study are illustrated below and included:

- Desk research - City plans and studies
- Field work and surveys
- Insights and observations presentation
- Stakeholder consultation
- Preliminary recommendations
- Final scoping study report



2.2 Study area

The main focus for the scoping study research was the downtown and neighboring areas as shown below. The concept and outline strategy recommended by the study did however consider wider application to other neighborhoods in the City of Portland.



2.3 Headline findings

The main scoping study report provides details of the research and stakeholder consultation work that produced a concept and outline strategy for a new wayfinding system in the City. However, headlines from stakeholder interviews that relate to costs, funding and management are repeated here as context for the purpose of this report.

Portland is Oregon's big city as well as a tourist destination It should be coordinated and accessible without relying on smartphone apps which not everyone has or uses.

There are limited preparation so far for Oregon21 Waiting for it to be the catalyst for a new city wayfinding project might be a risky strategy when the current system is out-of-date.

New districts are growing But feel disconnected from the heart of the city and out of sight of visitors.

There is no appetite for spending on a replacement without ongoing maintenance funding being secured Digital information and cheap replaceable panels should be considered.

There is a tension between what PBOT can include on maps and the real information visitors are interested in Can broader guidelines be produced that PBOT will accept?

Some agencies have or are preparing mobility and pedestrian plans Suggesting that this is a good time to agree a coordinated approach to wayfinding that represents as many districts as possible.

There are signs of a decline in transit ridership Simplifying first-last mile connections are part of a solution to improve attractiveness and utility of services that TriMet is already committed to addressing.

There are opportunities to raise capital and operational funds from partner agencies Some existing revenue could be diverted from local sources provided PBOT takes the lead as owners of the right of way.

It should be possible to share central assets such as maps and design standards This would allow coordinated delivery and new ideas, provided there is room for individual brands to be preserved.

In-kind contributions and knowledge-sharing could be considered A more inventive approach to wayfinding such as digital innovations and community projects could generate support and funding.

3.1 Building a case for wayfinding

In 1998, Portland became one of the first cities in the nation to prepare a pedestrian master plan. This initiative set a direction for encouraging and enabling walking in the city that in part led to the Portland Bureau of Transportation (PBOT) installing a downtown pedestrian wayfinding system in 2007.

But, while initially maintained through sponsorship and partially updated in 2012, operational funding has been difficult to secure. This has led to an under-investment in the content and upkeep of the street signs to the point that PBOT has considered removing them altogether.

Against these challenges PedPDX,the new city pedestrian master plan, identifies that wayfinding has a place amongst the city's many infrastructure and safety priorities for walking. Strategy 10.3 of PedPDX states PBOT will, *"Work with partners to update the City's pedestrian wayfinding system"*.

This recognizes that while wayfinding is a component of walkability, the city needs first to establish long-term co-funding arrangements with a number of other bodies.

As noted above at 2.3, the consultant team found that the study panel of stakeholders strongly support replacement and upgrading the current system for various reasons. It is also clear that some are willing to consider funding contributions if PBOT take the lead.

To convert this interest into more secure commitments both PBOT and stakeholders need to make compelling cases for funding in competition against other needs.
To address this, the following section provides examples and evidence from other cities that establishes the value proposition, followed later in the report by more specific assessment of possible costs and potential sources of funding.

3.2 Effectiveness of wayfinding

While there are relatively few studies of city wayfinding, there is a growing body of evidence to support the idea that well-designed information can increase walking and create a range of related benefits.

Arguably the largest and most comprehensive set of studies have been carried out by Transport for London (TfL) on their city-wide Legible London project. Started in 2008, Legible London now consists of over 1,300 map-stand signs (monoliths) located across the UK capital.

TfL undertook a comprehensive study of their prototype project that included 2,600 interviews with members of the public, 600 behavioral observations and 100 functional tests over a 3 month period.

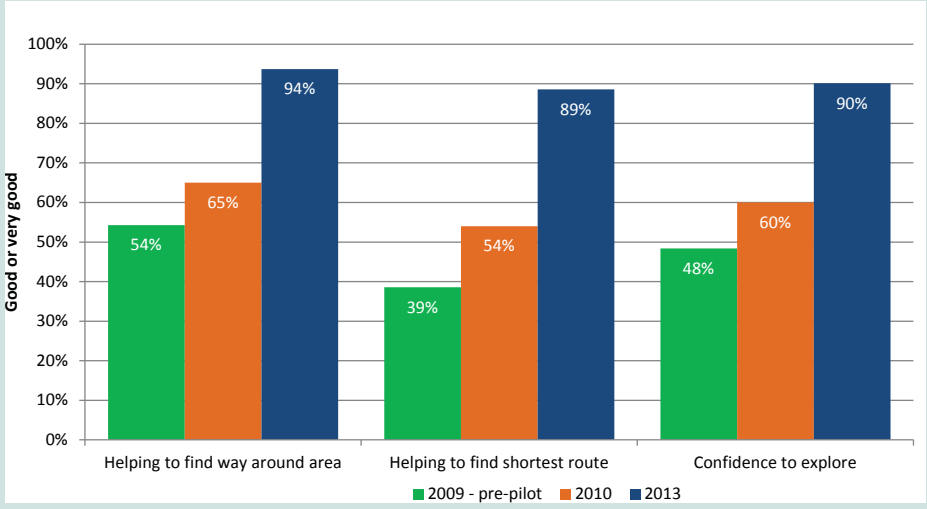
Since then TfL have continued to monitor the impact of Legible London as they implemented the project across London. This has provided a rich source of data that has been referenced by many projects across the world, and shows how these projects increase in effectiveness as they expand (see inset below).

Legible London, United Kingdom

The importance of consistency and reliability

Wayfinding projects encourage walking and connect places. They grow in effectiveness as they become more frequent and reliable in people's journeys. Cities see the long-term benefits of a commitment to complete and maintain projects.

Table: Ratings of Legible London over time: LL Evaluation 2013/14, Transport for London



3.3 A case for Portland

To demonstrate the potential of investing in a new wayfinding project for Portland, three strategic themes from city policy are used to group various examples from other cities.

→ Destination City

This theme responds to the objectives of Travel Portland and business association to promote Portland to recreational and business visitors. The visitor economy is crucial to the city generating some $5.3 billion as a result of over 8.6 million overnight stays in 2018. It also reflects the potential of Oregon21 (IAAF 2021) to draw in a projected 55,000 visitors per day to destinations in Oregon.

Example #1: Asheville, NC

A survey conducted by the Asheville Convention and Visitors Bureau found that 87 percent of visitors stated they would explore the city further if signage provided clear direction to additional attractions. In addition, 11 percent stated that they would extend their visit with at least one additional overnight stay if new or additional destinations were discovered.

Example #2: San Diego, CA

A University of San Diego study determined that more legible and accessible signs resulted in actual increases in weekly store sales of between 4 percent and 12 percent.

Example #3: Cleveland, OH

In 2012 surveys, Positively Cleveland found that 76% of leisure and 78% of business travelers felt that ease of getting around is important in the decision to visit.

→ Connected City

This theme speaks to the city's Transportation System Plan that aims to create a transportation system that *"makes it more convenient for people to walk, bicycle, use transit, and drive less to meet their daily needs"*. Connectedness is an underlying condition that makes multi-modal travel practical and convenient and one that relies on walking as the dominant first and last mile mode.

Studies such as Stokes and Parkhust (1996) show that one of the biggest barriers to transit system integration is poor transfer information. A 2,000 person survey by Syed & Khan (2000) supports this by finding that bus information was the highest rated factor in attracting ridership at 22 percent compared to on-street service at 11 percent and reducing fares at only 3 percent.

Example #4: Metro Vancouver, BC

In the Metro Vancouver region of British Columbia, TransLink found that 69 percent of respondents felt the new 'walking from here' maps at transit facilities helped them make onward connections.

Example #5: London, UK

As part of the business case for Legible London (see inset opposite) Transport for London evaluated the potential for wayfinding to reduce journey times. The pilot project in the city's West End found a 16 percent reduction in journeys times after the wayfinding signs were installed.

→ Healthy City

This theme covers another central outcome of sustainable transportation and city planning policies demonstrated in the city's *'Healthy Connected Neighborhood Strategy'*. Encouraging–– walking is one of the most accessible and affordable means for most people to gain valuable exercise, and to increase the community 'health' of neighborhoods.

Example #6: Vancouver, Canada

In 2014, the City of Vancouver (British Columbia) found that 82 percent of interviewees stated they were more likely to walk between places because of new street maps. With wayfinding as part of other policies, the City has seen walking, cycling, and transit use increase to 53 percent of all trips in 2019.

Example #7: Atlanta, GA

The Centers for Disease Control & Prevention conducted an experiment with wayfinding at Hartsfield-Jackson Atlanta International Airport in 2015. The aim was to encourage people to walk between terminals rather than take the airport shuttle. After the first 6 months of installing wayfinding the CDC found that the proportion of travelers and employees choosing to walk increased by about 10 percent.

4.1 Outline strategy

Within the limits of the scoping study, an outline strategy for wayfinding has been proposed. This then allows the key elements of a solution to be conceptualized and broad orders of cost to be estimated.

The strategy and concepts are explored in Part 1 of the scoping study report, however some central aspects are relevant and worth repeating for this report.

→ Coalition

The need for a partnership of different bodies into a coalition is built into the wayfinding concept. This acknowledges not only PBOT's desire for a sustainable and shared funding model, but also the benefits of combining different interests into a common system of wayfinding information, that could benefit from digital tools.

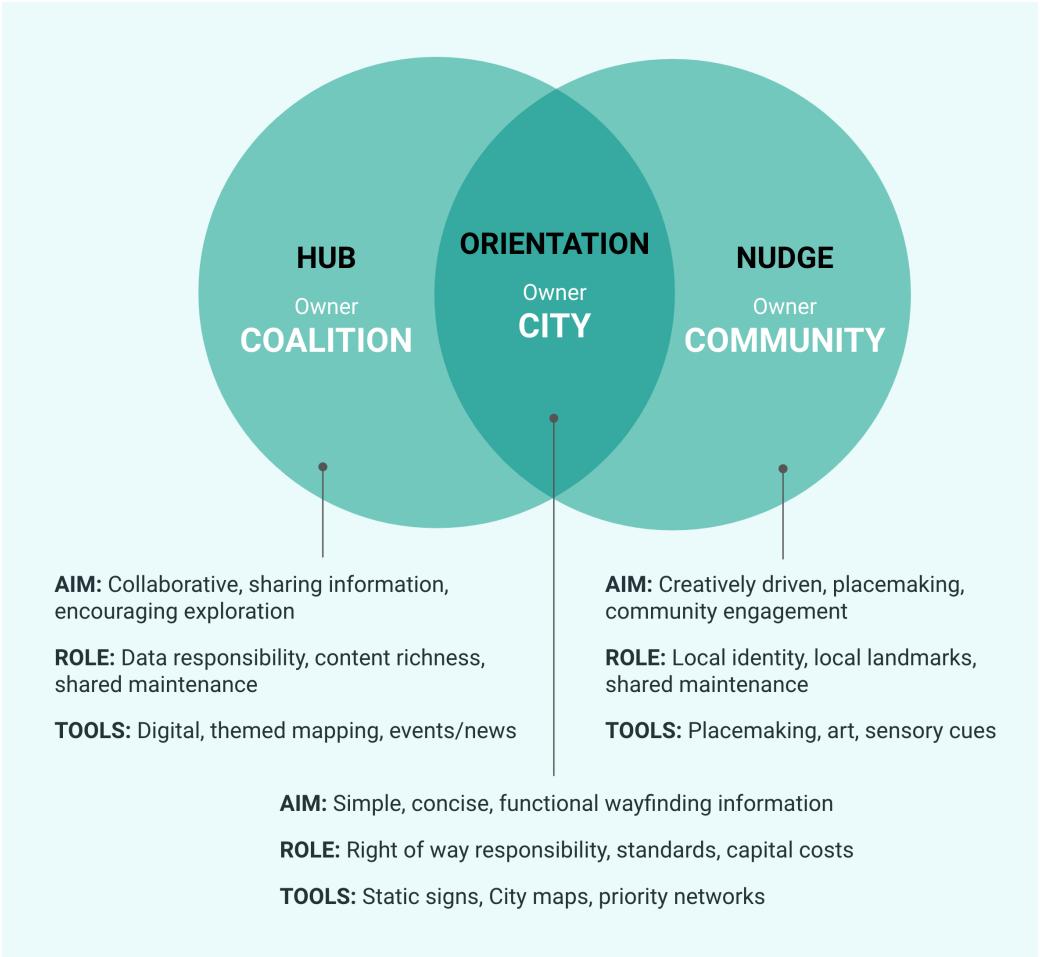
→ City

The concept recognizes that the City, through PBOT, are responsible for any street signs and so the natural holder for central project standards. The core system of street signs would be optimized to limit costs and lever partner resources.

→ Community

An innovative element of the concept is to include street placemaking projects and social landmarks into the wayfinding system. These ideas are intended to integrate physical legibility improvements into the project, reduce street clutter, and to better reflect the community character of Portland.

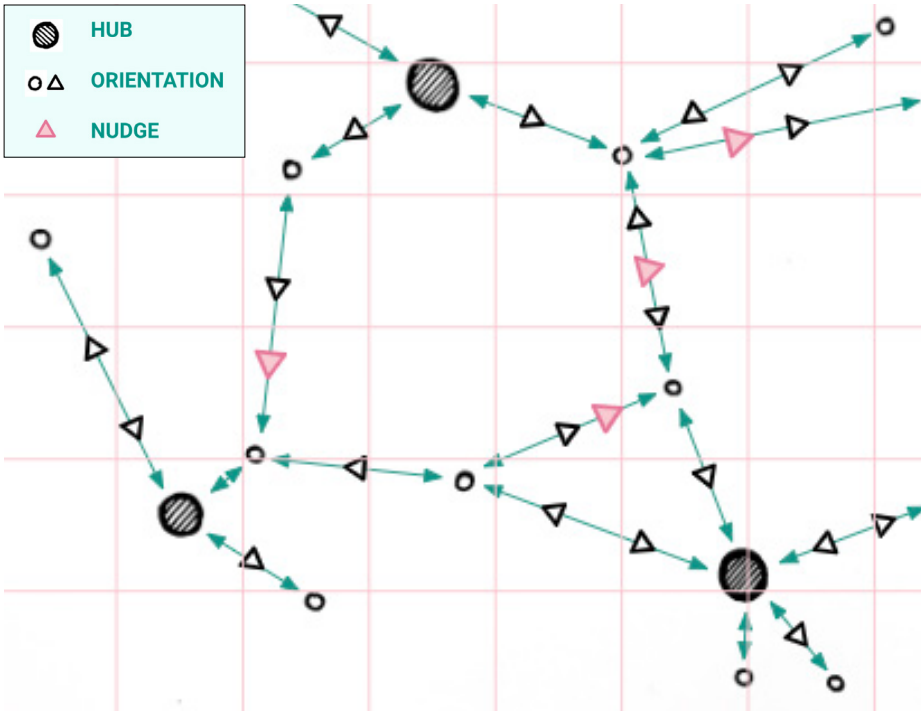
The three 'strategic realms' of the partnership model share responsibilities and benefits of a coordinated wayfinding project



4.2 System concept

The concept for the new wayfinding system understands that there is an immediate focus on updating and expanding the PBOT downtown signs. In addition, the scoping study acknowledges the potential of the 2021 IAAF World Championships to be a platform for promoting Portland to a new audience, and for a wayfinding system to be a more central part of PedPDX by being implemented in all of the identified Pedestrian Districts.

The concept for the system that would be developed in detailed under a full study comprises three main elements that would be implemented in different combinations and densities across Portland.



The Portland wayfinding family could combine technology and placemaking with creatively designed traditional signs

Hub

One element of the family is the hub which would offer different views of the city provided by partners on a common base. Digital screens might provide the most effective and efficient way to achieve this where demand is high. Other places could use cheaper static maps with QR codes allowing access by smart phone.

Orientation

An orientation sign could take a number of forms that guide users to destinations using a pre-determined priority network. These orientation signs would also create a 'safety net' for wider exploration.
A common and cost-effective form of orientation that could be updated to meet Portland's needs, is the finger blade sign.

Nudge

Nudges would improve the physical legibility of the city beyond signs. Nudges may be in the form of graphics in the street itself, or more subtle sensory cues using art or street projects that create landmarks, edges, paths, and node and district characteristics that help visitors build a mental map of the city.

5.1 Estimation assumptions

In typical walking wayfinding projects, hub map kiosks are located at decision points supported where necessary, by directional orientation signs pointing to locations. This is a supportive approach for increasing the walkability of large, dense areas

The Portland concept aims to reduce the number of Hubs in favor of greater use of Orientation signs in combination with Nudges.

Estimating the number of signs (Hub and Orientation) that may be required at this very early stage of project scoping, can only be an 'order of magnitude exercise' based on information from previous 'typical' city projects.

The tables below use several assumptions. In Table 5.1, the average density of Hubs and Orientation signs is estimated by adjusting previous project data by factors to reflect assumptions about the Portland concept.

Table 5.2 calculates the approximate areas and classifications of the PedPDX Pedestrian Districts which are assumed to the priorities for implementation can be adapted for the Portland concept.

In both tables areas are divided into three main density types (see map opposite):

- Core - dense downtown areas
- Urban - built-up neighborhoods around the core
- Sub/ Exurban - lower density, outer areas

Table 5.1 Hub and orientation sign density assumptions

Area density types	**Typical hubs per square mile** (see note 1)	**Typical orientations per square mile**	**Portland hubs per square mile** (see note 2)	**Portland orientation signs per square mile**
Core	100	45	25	120
Urban	20	10	5	25
Sub/Exurban (see note 3)	7	3	~1 per area	~9 per area

Notes:

1. *Typical project information obtained from city scale projects in North America and Europe by Applied Wayfinding. Typical hubs are non-digital map-based kiosks. Typical orientations are simple finger blade type directional signs*
2. *Assumptions for sign densities in Portland that approximately one quarter of the hub signs would be used, and that the balance of signage needs would be provided by orientation signs. It is further assumed for estimation purposes only, that half of core area hubs may have digital screens*
3. *The Portland assumptions reduce the density of Hubs in low density areas to below 1. These are therefore rounded up with the resulting effect on Orientation signs*

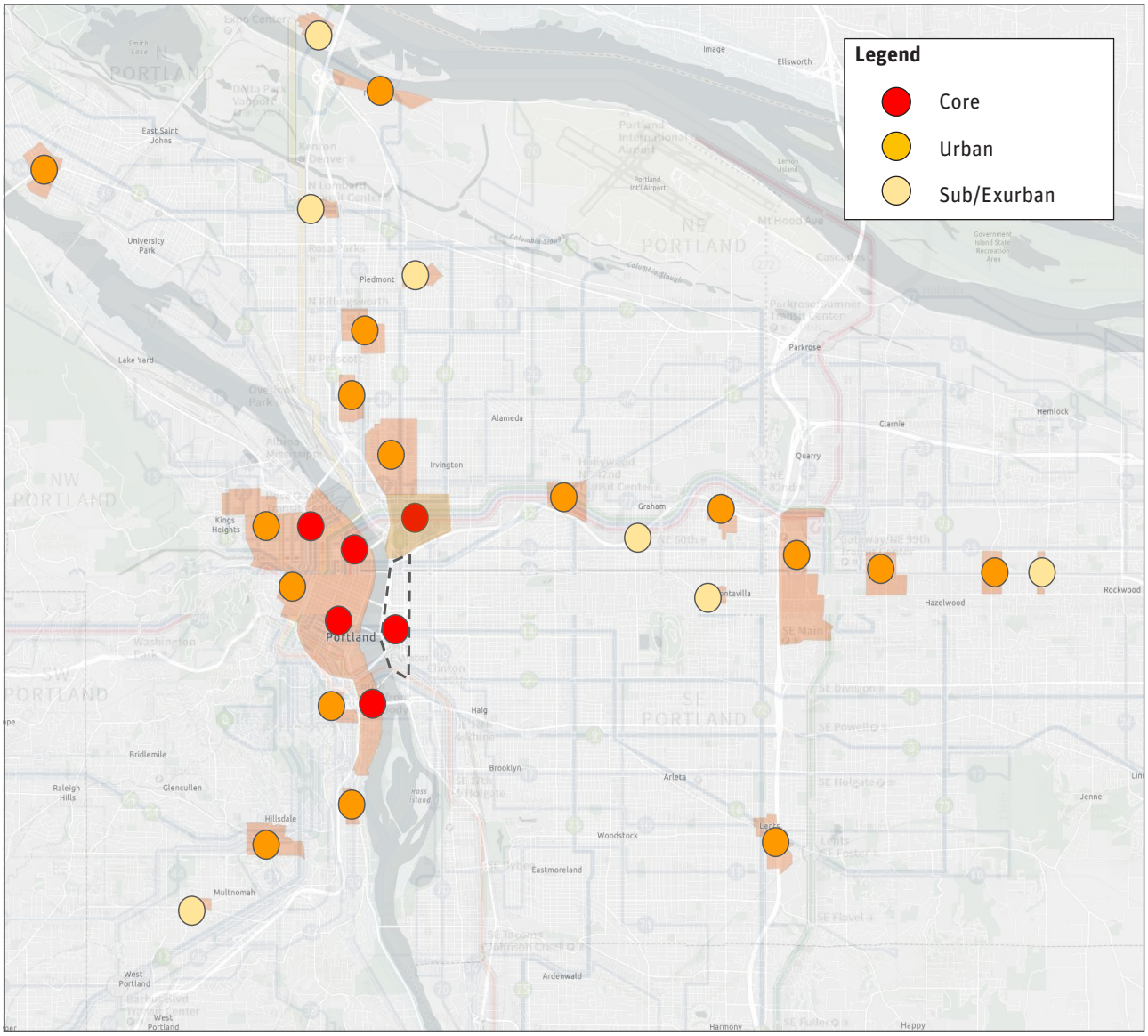
Table 5.2 Areas of PedPDX Pedestrian Districts by density type

Area density types	**Total area of Pedestrian Districts square miles** (see note 1)
Core	2.3 - 2.6
Urban	3.8
Sub/Exurban (see note 2)	7 areas

Notes:

1. *The division of Pedestrian Districts by density type is assumed and subject to detailed study. Calculated areas use measuring tools available on the Portland Open Source GIS. A range is given for the Core area recognizing the need to define the Central Eastside.*
2. *Sub/Exurban districts are listed by number to align with Table 1.*

Area types
The map shows the assumed extent of Core, Urban and Sub-Exurban Pedestrian Districts used for estimation purposes.



NOTES: All assumptions are for initial estimation only and subject to detailed study and consultation. Areas derived from Portland Open Source GIS

5.2 Potential sign quantities
Applying the assumptions allows estimates of street sign quantities and costs as follows.

Table 5.3 Estimated number of Hub and Orientation signs

Area density types	Portland hubs with static displays	Digital screens added to Portland hubs (See note 1)	Portland orientation signs
Core	65	33	312
Urban	19	0	95
Sub/Exurban	7	0	63
Totals	**91**	**33**	**470**

Notes:

1. *The number of digital screens is unknown at this stage and must be determined by detailed study. As hubs with screens are only expected to be located at major destinations and at transit facilities, an allowance representing application to half the core hubs is assumed.*

5.3 Sign unit cost examples
Examples from other cities provide a guide to potential costs of street signs.

Hub - Washington DC
Simple map kiosk with custom fittings
Approximately $6,500 each

Hub - Toronto, Ontario
Fully custom kiosk with simple finishes
Approximately $12,000 each

Hub - New York City
Fully custom kiosk with high standard finishes. Approximately $16,000 each

Orientation - Legible London
High quality custom finger blades
Approximately $3,000 each

Outdoor digital screens for hubs
Full outdoor screen (as per Link NYC) with install. Digital system extra.
Approximately $12,000 each

Assumed unit costs for Portland
Based on the examples, the following guide prices for fabricated and installed signs are used (2019 prices):

Hub (static signs): $12,000 each

Hub (digital screen): Add $12,000 per hub

Orientation: $2,000 each

5.3 Potential street sign capital costs
Based on these assumptions, the total estimated **capital cost for signs is $2.5m** for fabrication and installation. A breakdown of street sign capital costs (all costs rounded up to 2019 prices) is given in the table (right).

Table 5.4 Estimated street sign capital costs

Sign type	Assumed quantities	Assumed unit cost	Totals (Rounded, 2019 prices)
Hub (static only)	91	$12,000	**$1.1m**
Hub digital screens	33	$12,000	**$0.4m**
Orientation signs	470	$2,000	**$1.0m**

5.5 Potential maintenance costs
Any system of street signage will incur maintenance costs related to updating information, addressing damage and general care. These are estimated to be **$90,000 per year**.

Table 5.5 Portland sign maintenance costs

Activity	Unit cost	Graphic content/ artwork production (see note 4)	Percentage affected per year on average	Annual budget estimate
Hubs - static signs (see note 1)				
Refresh content	$,200	$200	10%	$14,000
Cleaning	$110	n/a	100%	$11,000
Knock downs	$12,000	$200	2%	$24,400
Vandalism (tagging, stickering)	$18	n/a	50%	$900
			Total/ 100 signs	$50,300
			Total for 91 hubs (rounded up)	**$46,000**
Hubs - digital screens (see note 2)				
Replace digital screen	$12,000	$0	2%	$24,000
			Total for 33 screens (rounded up)	**$8,000**
Orientation signs (see note 3)				
Refresh content	$200	$50	10%	$2,500
Cleaning	Not assumed necessary			
Knock downs	$2,000	$50	2%	$4,100
Vandalism (tagging, stickering)	$18		50%	$900
			Total/ 100 signs	$7,500
			Total for 470 orientations (rounded up)	**$36,000**

Notes:

1. *Values are based on information from the project manager of Toronto 360, the City wayfinding system converted to US $*
2. *There is no published information for the frequency of replacing digital screens. Hence Toronto 360 values are assumed.*
3. *Values for orientation signs are based on general experience with finger blade type signs. Values will vary based on design*
4. *Artwork production for mapping elements assume a digital master map system is available*

5.5 Potential operational costs

The concept includes the development of a digital system that supplies maps for street and other signs, as well as real-time data applications such as screens and potentially, smart phone apps.

Estimating the cost of developing and maintaining a digital map system is difficult due to the range of ways in which it could be provided including fully standalone custom-built, cloud-based from proprietary services such as MapBox, or a hybrid developed from an existing City GIS system.

Once created, a digital master map would greatly expand the potential for collaboration, for new products and reduce the cost of production. One area of particular importance would be producing map faces for new hub signs. Fabricators would generally expect these artworks to be supplied by the client in a timely fashion to meet production schedules.

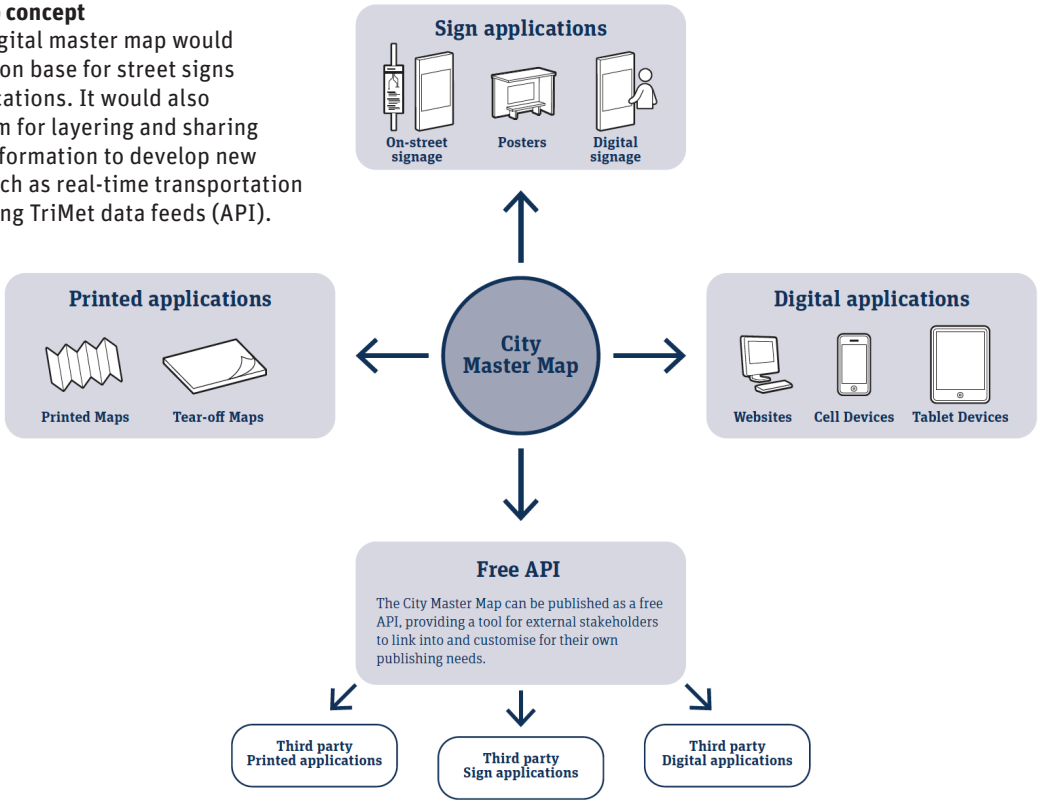
The table below provides broad orders of cost based on estimates for a cloud-based digital master map proposed in other US and Canadian cities.

Table 5.6 Digital master map system costs

Activity	Estimate assumed to include	Cost basis	Cost estimate (rounded)
Digital master map	Create shareable master map using City GIS	Rough order of magnitude only (2019 prices)	$200,000
Future digital map products	Allowance for outputs such as digital screens, SDK and web services	Rough order of magnitude only (2019 prices)	$300,000
		Total	**$500,000**
Production of map from system for new sign	Cost to generate first map for sign location including minor graphic adjustments.	$1,000 per sign face (assumes two faces per static hub)	**$180,000**

City Master Map concept

A city-owned digital master map would provide a common base for street signs and other applications. It would also create a platform for layering and sharing other partner information to develop new applications, such as real-time transportation option maps using TriMet data feeds (API).



5.6 Additional considerations

5.6.1 Other project costs

The development of a full wayfinding project may result in a number of additional capitalized costs. These include normal contingencies for variance, but also allowances to inform and complete the scope of the concept. In particular, it is expected that budgets may be required to integrate Nudges into placemaking and street works projects, and also to outsource skills and capacity to prepare the necessary guidance and standards that would develop the concept and coordinate implementation. Cost estimates for these items are assessed as percentages of the estimated capital cost.

Table 5.7 Other capitalized costs

Activity	Estimate assumed to include	Cost basis	Cost estimate (rounded)
Capital contingency	For project variance within capital assumptions	15% of street sign capital budget - subject to study	$375,000
Co-funding for Nudges	To include wayfinding in placemaking projects	10% of street sign capital budget - subject to study	$250,000
Legible Design standards	Professional fees to produce Nudge design guidance as part of PBOT street design guide	5% of street sign capital budget - subject to RFP	$125,000
System Design standards	Outsourcing system standards, location and content planning, permits and production	15% of street sign capital budget- subject to RFP	$375,000
		Total	**$1.25m**

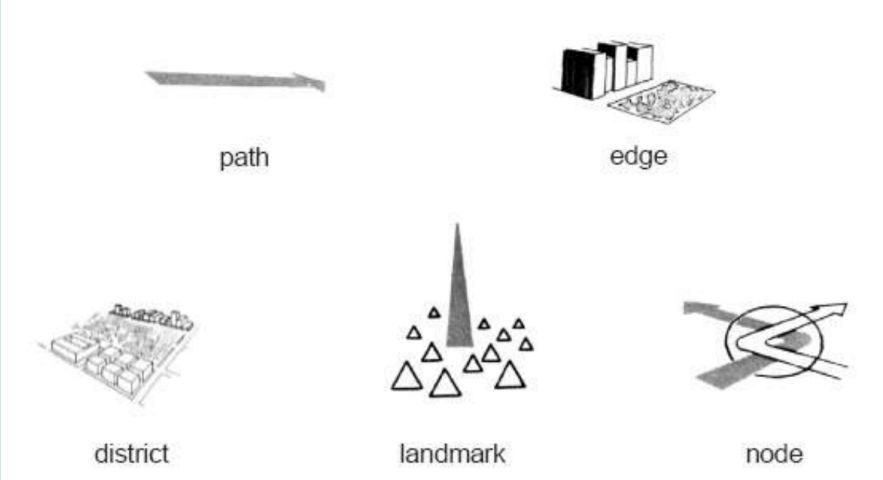
Legible Design standards

PedPDX is expected to generate a new set of street design guidance. This presents an opportunity to prepare advice on how physical legibility can be designed into projects to support the wayfinding project.

The basis for legible design is the work of Kevin Lynch nearly 60 years ago. His book 'The Image of the City' looked at the 'imageability' of cities and the elements we use to build our mental maps of places.

Design guidance could set out examples and objectives for nudges that address Lynch's legibility elements including creating **landmarks**, better defining **paths** and **edges**, and emphasizing identity and character in **districts** and at **nodes**. Street projects that include these considerations would increase Portland's 'imageability' and hence build people's mental maps.

Lynch's lehgibility elements (The Image of the City, 1960)



5.6.2 Walking From Here maps

The surveys and consultation for the scoping study identified the value of connecting a street wayfinding system to the transit network. The value proposition presents the case for wayfinding applications that could connect between services and provide last mile information for pedestrians. A 'Walking From Here' map (see example opposite) could be produced from the city walking wayfinding standards and adapted to meet operator brand guidelines. Potential priorities for these would include the TriMet MAX stops Portland Streetcar stops, AMTRAK Union station and Biketown bike docking stations. Other potential applications would include high usage TriMet bus lines, Biketown the Aerial Tram.

The tables below indicate costs for design templates and production of Walking From Here maps and estimated capital costs for implementing at the priority services.

Table 5.8 Producing a transit 'Walking From Here' map

Activity	Estimate assumed to include	Cost basis	Cost estimate (rounded)
Design template	Design standards to adapt city master map to display format and operator brand	One-off exercise/ per operator	$40,000
Production	Unique map for facility or group of stops within an interchange produced from central digital master map	Per site (may include multiple locations)	$1,000

Table 5.9 Potential capital project costs

Service	Template	Number of locations	Production and installation (see note 1)	Notes
TriMet MAX stops	$40,000	97	$49,000	Assume reuse existing poster cases
Portland Streetcar stops	$40,000	72	$36,000	Assume reuse existing poster cases
AMTRAK Union	$40,000	1	$1,000	May require new poster case
Biketown - hubs with kiosks	$40,000	19	$10,000	Assume reuse existing kiosks
Totals	**$160,000**	**189**	**$96,000**	Grand total $256,000

Notes:

1. *Production is $1,000 per unique location from a digital master map. Totals assume that in most instances MAX and streetcar stops have stops in opposite directions in close proximity allowing one Walking From Here map to serve two stops. Hence totals for TriMet and Portland Streetcar are halved.*

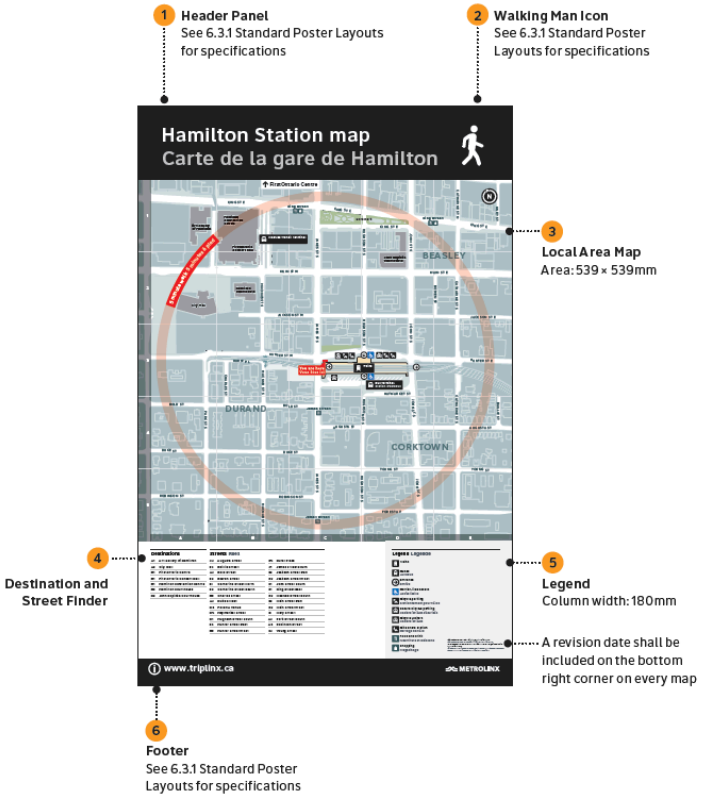
5.7 Summary of costs

The estimates from the preceding section are summarized below.

Table 5.10 Summary of order of costs for city wayfinding project

Item	Quantities/ notes	Unit cost	Total (rounded)
Hub (static only)	91	$12,000	**$1.10m**
Hub digital screens	33	$12,000	**$0.40m**
Orientation signs	470	$2,000	**$1.00m**
Capital contingency	For implementation period	15% of capital	**$0.38m**
Co-funding for Nudges	Potentially spread over time	10% of capital	**$0.25m**
Legible Design standards	One-off costs	5% of capital	**$0.13m**
System Design standards	One-off costs	15% of capital	**$0.38m**
Transit Local Area Map	Creation only	Order of magnitude	**$0.06m**
Digital master map	One-off costs	Order of magnitude	**$0.50m**
Production of maps from digital	One-off costs for 91 hubs	$1,000 per face	**$0.18m**
Street sign maintenance/ update	Annual budget	n/a	**$0.09m/ year**
Walking from Here maps	All operators	$40,000/ template + $1,000 per location	**$0.26m**

Examples of Walking from Here map applications, Metrolinx, Greater Toronto, Ontario



6.1 Approaches to project funding

In recent years, many cities and communities have been encouraged to pursue wayfinding projects to promote transportation, business and other local objectives. With few exceptions, such as street advertising contracts, one or more city departments have funded the majority of capital costs.

However, while capital funding can be secured through city plans and grant, essential funding for operations and maintenance can be more difficult to sustain. As a result, many cities including Portland, have successfully invested in new wayfinding but without long-term plans for its upkeep.

Apart from general maintenance, the desire for more integrated and sophisticated wayfinding projects has brought the operational cost issue into sharper focus. This has led a number of cities to develop income streams to offset maintenance and fund updates and expansion. The table below provides some working examples.

Table 6.1 Wayfinding project funding examples

Authority	Funding approach	Financial value/ conditions	Notes
City of Calgary, Alberta	1) Downtown licensing fees and developer bonusing contributions for capital install 2) Sponsorship with Calgary Hotel Association for operations and maintenance	1) Not disclosed 2) CAD$75,000 ($56,000) over 5-years	The capital funding is part a special funding vehicle called the Downtown Improvement and Beltline Community Investment Funds
Irish Heart Foundation, Republic of Ireland	National foundation funding to promote heart health	Funding at approx £120/km ($250/ mile) for marked walking paths	The Slí na Sláinte (Path to Health) brand is also now used in Germany, Denmark, Sweden and Finland
Anchorage Park Foundation, AK	Sponsorship program for area trail sign program	Large kiosk $25,000, Greenway gateway $15,000, Small kiosk $12,500, Neighborhood Gateway $7,500, Directional sign $6,000 etc. Minimum 5-year contract	Sign locations are agreed with the sponsor. Values suggest full capital and maintenance period
City of Toronto, Ontario	Partnership and sponsorships	Capital cost budget split: 45% Transportation Services Division 18% Economic Development Division 18% Business Improvement Assocs. 19% Other Partners (developers)	Developer and BIAs contributing must pay the capital cost of the sign and a 10% charge to support maintenance. City pays for all planning costs.
City of Vaughan, Ontario	Hotel tax	4% levy on hotel rooms in City used to pay for a range of visitor experience projects including wayfinding	
City of San Francisco, CA	TDM Plan requirements	All capital and maintenance costs.	The City allows developers to select wayfinding from a toolbox of TDM measures in order to meet City development ordinances
City of Vancouver, British Columbia	1) Street advertising contract 2) Living Map licensing	All capital and maintenance costs. City pays for planning, operations and mapping system. The master map (Vancouver Living Map) is shared with partner agencies under a currently free license.	City signed a 20-year contract with Outdoor Decaux for various street signs in 2002

6.2 Funding options for Portland

The following sections describe potential sources for funding relevant to Portland. These represent a preliminary and non-exhaustive list that should be fully researched and consulted upon under a full planning and design project.

6.3 City/ State sources

The ODOT/DLCD jointly-managed Transportation and Growth Management Program provides a comprehensive review of funding options for active transportation in the 'Funding Walking & Biking Improvements' leaflet dated, September 2018. Some relevant options that relate to City sources include:

- Transportation Growth Management (TGM) grants - provide funding for projects that meet a range of objectives, many of which align to the value proposition for wayfinding including; Provide transportation choices to support communities, Create communities linked by accessible transportation, and Supporting economic vitality.
- Metro Regional Travel Option (RTO) grants - fund transportation demand management (TDM) strategies to increase use of travel options, reduce pollution, and improve mobility. RTO grants may be particularly suited to Nudge project where community involvement is highlighted.
- General funds - these funds are built into project and organization budgets as one-time expenses that may not be relied on for the recurring costs of maintaining and operating the system.
- Gas tax - PBOT collects a 10¢ gas tax in a program that may be extended, if voted for by the public, beyond 2020. The income from gas taxes has exceeded predictions and could provide an avenue for ongoing support, particularly as pedestrian wayfinding can enable and encourage walking as a replacement for short auto trips with the resulting congestion and emissions benefits.
- Local parking revenue - A case could be made for some parking revenue to support the wayfinding project. This is based on the logic that effective pedestrian wayfinding could help distribute parking demand by encouraging drivers to 'park once and walk', and by providing a service benefit to the parking experience by improving arrival information. Some districts such as Lloyd, North-West Portland and Central Eastside already share parking permit revenue with PBOT.
- Transportation Utility Fee (TUF) - while primarily intended for road maintenance, the relatively small cost of maintaining wayfinding may be a worthwhile use of TUFs with direct benefits.
- Local Improvement Districts (LIDs) - LIDs are used by cities or private property owners to fund and construct local projects such as streets, bike infrastructure, sidewalks, and stormwater management features (ORS 223). Using the LID process, area property owners share the cost of transportation improvements. LIDs have recently been used to install new sidewalks in Baker City and Portland, as well as bicycle facilities in Ashland.

6.4 Federal sources

Federal funding has been used for wayfinding in many cities, however regulations have changed, competition for funds is often intense, and the administrative processes to obtain, manage and report on funding can be burdensome. However, options do exist:

- FHWA grant - the replacement of the FHWA's Transportation Alternatives Program (TAP) by the 'Fixing America's Surface Transportation (FAST) Act has reduced the opportunities for pedestrian wayfinding to be supported Federally as FAST requires compliance with the MUTCD standards for highway signage and most pedestrian wayfinding is custom designed.
- Modal shift - Evidence from other cities suggest the potential for wayfinding to encourage and enable modal shift. Integrating wayfinding as a tool in PBOT's established transportation demand management programs may provide justification for a Mobility Management funding application under the FTA Urbanized Area Formula Grants Section 5307 part (g).
- Accessibility - A focus on accessible design which is supported by the stakeholders for a future Portland wayfinding project may offer a route to support from the USDOT Intelligent Transportation Systems Joint Program Office. The TSJP granted Broad Agency Agreement awards in 2017 under its Accessible Transportation Technologies Research Initiative (ATTRI). These awards prioritize new technology to assist people with disabilities to travel more easily and included 'Smart Wayfinding and Navigation Systems'.
- New mobility - The FTA's Research, Development, Demonstration and Deployment program authority released a total of $8 million in October 2016 for mobility on demand pilot projects including to TriMet for the OpenTripPlanner Shared-Use Mobility app. It is not clear if the Sandbox will lead to future competitions or sources of development funding, but if such sources do become available, a coordinated city wayfinding project could provide a bid platform.

6.5 Non-transportation sources

The cross-cutting benefits of promoting walking has enabled some authorities to lever non-transportation funding to support wayfinding. Options that could be explored in Portland may include:

- Recreation - Portland's Parks & Recreation 2017-2020 Strategic Plan identifies the "safe, functional and reliable recreation experiences through effective management and maintenance of all park facilities". The mental and physical well-being benefits of walking are well-documented and provide a natural link between the objectives of the wayfinding project and the city Parks and Recreation Department's aim increase equitable access their managed facilities.
- Economic development - Wayfinding projects are a natural extension of many Business Associations' remits due to the direct commercial interests in distributing footfall across retail streets and helping clients to find businesses. BAs often produce promotional materials such as member and event maps that would suit a collaborative arrangement with a coordinated city system. The Clean & Safe Downtown has already expressed a willingness to consider supporting a PBOT led project.
- Tourism - as shown in 6.1, some cities have used hotel or room taxes to support wayfinding on the basis of its value to tourism. Tourism agencies have also been known to promote and collaborate on wayfinding initiatives either to support city projects or to expand them by coordinating their materials.
- Health - Oregon Health Authority's Public Health Division Strategic Plan 2017-2020 includes active transportation as an element of Objective 1: Create healthy environments. This may create opportunities for outreach between PBOT and Health Promotion and Chronic Disease Prevention to explore the potential for wayfinding to be part of a behavioral tool.
- Social inclusion - The City of New York procured LinkNYC to provide wifi enabled street kiosks to provide access to the internet for the city's homeless population as well as dynamic information to its millions of annual visitors. A proactive use of wayfinding to bridge the digital divide or to more simply improve awareness and access to social and housing services could create grant application routes as part of the city Homlessness Toolkit.

6.6 Private sources

There are a variety of private funding sources that have been used to support the expansion , operation and maintenance of city wayfinding projects. Those potentially relevant to Portland are listed here:

- System Development Charges (SDCs)/Transportation Impact Fees - SDCs are a one-time fee on new developments (and redevelopment) to recover some of the costs from the impact of those developments (Oregon Revised Statutes 223). Transportation SDCs can be used for both on- and off-street facilities.
- Construction Excise Taxes (CETs) - Half of the revenue from CETs levied on new construction of industrial or commercial buildings can be used for non-housing purposes. Corvallis, Portland, Cannon Beach, Hood River, and Newport have CETs. There is some pressure to use all the revenues for housing.
- TMAs - GoLloyd and Swan Island have TMAs. TMA funding contributions may be a potential for accelerating implementation of coordinated wayfinding to meet local transportation objectives cost-effectively.
- TDM Plans - including funding city wayfinding as a option to meet developer TDM plan requirements could help expand implementation and cover maintenance costs.
- Coordinated street furniture - Existing City decisions have not permitted a street advertising contract for coordinated furniture to be advanced in Seattle. However, this is a common consideration for wayfinding projects in other cities where a unified design and low to zero cost option for implementation and maintenance is available. Coordinated street furniture contracts now include more sophisticated designs and increasingly, options for digital elements that can increase the public value, albeit with the inescapable concession of increased street advertising presence.
- Licensing - If a digital master map is produced it may be possible to get a legal opinion supporting the need for an Open Data License to regulate sharing (and possibly create a revenue stream) to protect the copyright in the creative work to compile and style otherwise open source data. If an Open Data License is not possible, it may also be possible to monitor use in other ways without infringing rights, such as requiring registration for password access.

- Sponsorship - PBOT has past experience with sponsorship that was not sustainable. Revisiting the sponsorship strategy through a detailed study may consider three options:
  1. *System development* - the innovation opportunities associated with a shared digital master map may provide attractive to a tech company willing to provide funding or knowledge-sharing to the City. However this may include some careful discussion about resulting ownership of intellectual property. Groups such as the Portland Innovation Quadrant are in a good position to be able to introduce an opportunity to the private sector.
  2. *Area sponsorship* - A process could be established to invite a company or private donor in a planned expansion area or adjacent to one, to sponsor implementation in order to accelerate delivery. Examples from other cities, suggest some agreement may be made to maintain the integrity of the system while also acknowledging the donation.
  3. *Sign sponsorship* - This model was tried by PBOT but may be reviewed and repackaged as more attractive in light of the more versatile and fewer opportunities presented by the Hub concept.

Reconsidering sponsorship
Portland's wayfinding sign sponsorship recognition program is required to be discrete and unbranded (circled).

This approach has not maintained enough income to meet targets. The 'Hub' concept for a new system may provide new ways and a more attractive product for sponsorship.

7.1 Developing a project plan

The purpose of the scoping study is to outline what a coordinated wayfinding project could be and how to generate momentum for a full design project. It does not however provide the specific plans, design standards and business plans necessary for implementation.

This section describes the project outputs and major tasks that would form a full design project.

7.2 Project outputs

A full design project will need to investigate, consult on and propose solutions to a number of needs identified by the scoping study. These include:

Wayfinding strategy

The strategy would describe the principles for how the wayfinding project would meet user needs. These needs would include promoting walking all the way and as part of longer journeys by other modes by local visitors and tourists.

Planning guidelines

The guidelines would translate the strategy into a hierarchy of arrival points, destinations and walking routes to be supported, and the criteria for the consistent location, type selection and content of wayfinding applications.

Design standards

The design standards would be in three parts; visual design standards for the graphic content including mapping; product specifications for the signage applications; and legible design standards setting out guidance for how to improve physical legibility into street design. The design standards should also include temporary event variants for Oregon21. These would be prepared for procurement of a manufacturer.

Digital strategy

The concept proposes a digital master map that would support city uses and sharing with partners. This output would propose how this master map could be designed and integrated with City/PBOT systems and shared with others to support the design standards.

Project plan

A project plan would propose a phased implementation of the project including any necessary criteria for prioritzation and consideration of the potential to coordinate with other projects.

Governance model

A proposal is needed proposing a partnership that would be responsible for the planning, implementation and maintenance of the wayfinding system.

Business plan

A related but separate aspect of the governance model will be a business plan that estimates the cost of the project based on the planning guidelines, design standards and master map system proposals. The business plan would also review and consult on the possible funding sources to propose a viable model for funding the capital, operational and maintenance of the project.

7.3 Major tasks

The major tasks to produce these outputs, and hence the required skills and experience of a competent and experienced consultant, would include:

Assessment

Including an audit of existing signage, a full assessment of user needs including accessibility, assessments of journey patterns and physical legibility, and a summary of visual character for design purposes.

Engagement

Coordinated engagement with interests during the development and selection of solutions. Assuming at least three check-in milestones (concepts, preliminary design and detailed design) with three groups (funding partners, stakeholders and the wider community) at least nine critical meetings may be necessary.

Information planning

Necessary planning-based work to produce the wayfinding strategy and planning guidelines. This work may include separate meetings and presentations to PBOT, TriMet and other agencies responsible for transportation planning and operational management.

Design development

Necessary graphic, industrial and urban design work to produce the visual design standards, product specifications and legible design guidance. Design standards should consider downtown, neighborhood and temporary event applications. This work would be expected to form the majority of stakeholder and community engagement content and include production of prototypes, pilot evaluation, coordination with other agency standards and options for the existing PBOT system.

Cartographic system

Design of a master map would form a sub-set of the design standards but also be closely associated with the system by which it is created, maintained, used to produce outputs and shared. This task would design the master map and recommend the parameters of a system for in-house or outsourced building.

Project planning

This task would propose an implementation plan for the wayfinding system considering geographic and needs based priorities, opportunities for coordinating with other projects and partner interests. The project plan would also estimate costs based on the design standards and advice for procuring manufacturers.

Finance and governance planning

This task would involve proposing and negotiating how the system would be coordinated and funded through a city partnership arrangement. It would suggest a governance model for consistent implementation and a business plan that identifies capital and operational funding sources to meet detailed cost estimates.

7.4 Procurement resources

The appendix to this report includes summaries of the online survey and stakeholder expert interviews that may be useful as resources to be shared with consultants under a RFP for a future full design project.

7.5 Project timeline

The timeline for a full design project is dependent on securing initial funding commitments. This step in turn relies on consensus amongst beneficiaries to help PBOT determine value. Assuming this support could be coordinated and lead to budget commitments for the 2020 financial year, it would be possible to design and implement a downtown project and to extend it as necessary for event based needs related to the expected influx of visitors for Oregon21.

Implementation of the full project across the City, including at least 91 Hubs and 470 Orientation signs may be expected to take three to four years, assuming a typical capacity of 100 Hubs per year and 150 Orientation signs per year including necessary permitting, fabrication and street works processes.

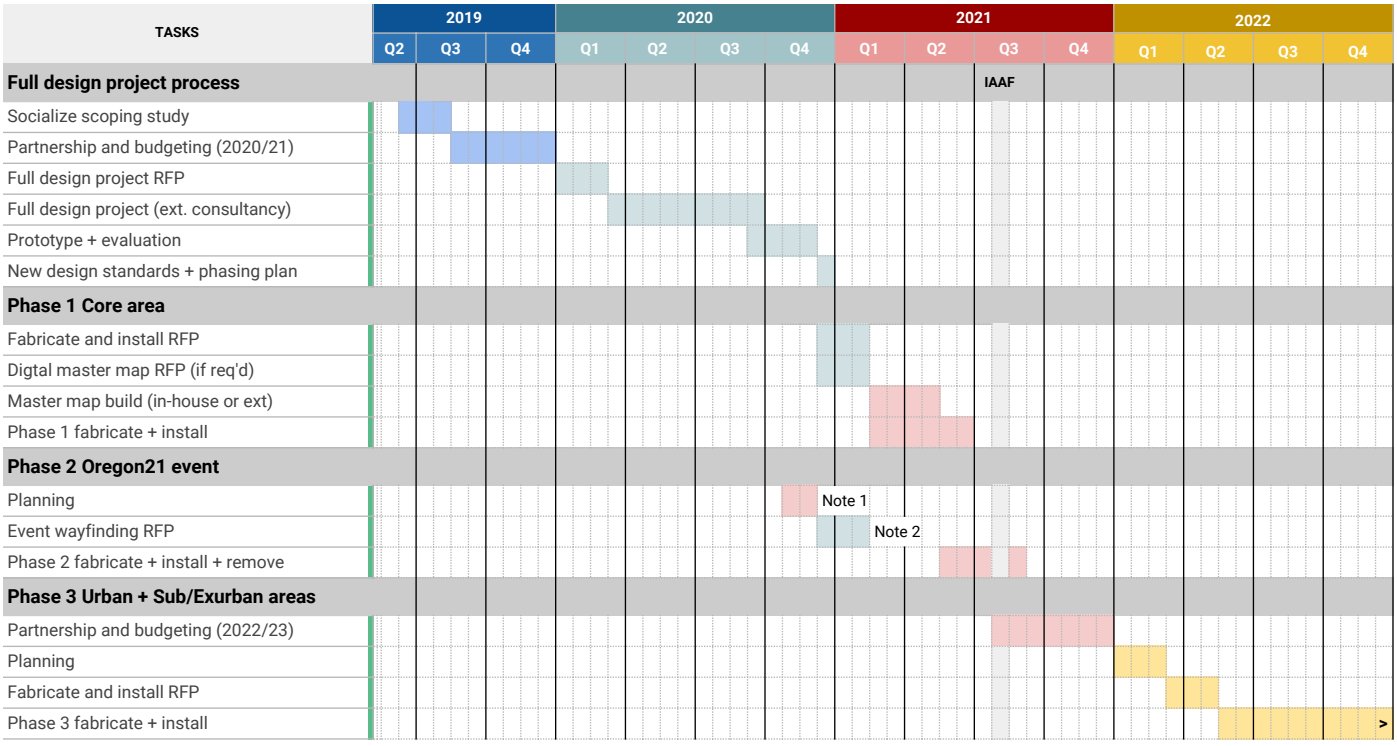
How long would it take?

Over the course of ten years, Transport for London installed approximately 1,100 Legible London monoliths using their two-part system. This suggests a feasible rate of about 100 hub type signs per year. This total may reduce due to the need for power and data connections to digital screens.

Orientation signs should be significantly simpler to locate and install assuming pole-based construction. This may allow 50% more to be completed in the same time.

Illustrative timeline

The timeline below suggests three main phases of implementation following the process to complete the full design project.



Appendices: RFP resources

I Online survey results

II Stakeholder expert interview summaries

1	How long have you lived, worked in or visited Portland?	First trip	Less than 1 y	1 to 3 years	More than 3 years		
		0.00%	2.17%	7.61%	89.13%	1.09%	

2	If you commute or make regular journeys to or in Portland, how do you travel mainly (longest distance if you travel by more than one mode	My own vehicle	Regular car or van pool	Transit / TriMet	Taxi, shuttle or app rides	My own bicycle or Electrowa	Scooter (Bolt, Lime, Spin)
		29.67%	2.20%	41.76%	0%	23.08%	0%
		Walk	Other	No answer			
		3.30%	0%	0%			

3	How long does your commute or regular Portland journey normally take?	under 15 mins	15 to 45 mins	45 to 60 mins	60 to 90 mins	More than 90 mins	No answer
3		11.38%	61.54%	11.38%	3.40%	2.28%	0%

4	How long do you normally walk for as part of your commute or regular Portland journey?	under 15 mins	15 to 45 mins	45 to 60 mins	60 to 90 mins	More than 90 mins	No answer
4		79.65%	20.35%	0.40%	0%	0%	0%

5	Can you name (up to) three visual landmarks you pass on your commute or regular Portland journey?	Bridges	Parks	Willamette	Pioneer cou	Aerial tram	Made creatu
5	(only responses with over 3 repeated locations shown)	48	14	11	10	7	7
		Pioneer Sq	Central Libra	MAX sta			
		7	7	6			

6	When traveling to an unfamiliar part of Portland, what information have you used to help you find your way around?	Smartphone	Website	Print guide	Ask	Street signs	Colleague	No answer
6		95.65%	48.91%	19.57%	11.96%	61.96%	6.52%	0%

7	When you travel to an unfamiliar city, what are the main things you use to help you find your way around?	Smartphone	Website	Print guide	Ask	Street signs	Colleague	No answer
7		94.57%	64.13%	42.93%	35.87%	64.13%	11.96%	0%

8	Please indicate how much you disagree or agree with the following statements	Strongly disagree	Disagree	Neither	Agree	Strongly agree	No answer
8a	I sometimes worry about getting lost in Portland	58.70%	31.52%	3.26%	3.40%	1.09%	0%
8b	Visitors to Portland never get lost	23.91%	59.78%	23.00%	3.40%	1.09%	3.48%
8c	New maps and signs would help visitors to explore the city	2.17%	4.35%	13.04%	31.52%	48.91%	0%
8d	New maps and signs would encourage me to walk more	21.74%	20.65%	26.09%	13.04%	13.22%	3.26%
8e	New maps and signs would encourage me to use transit more often	28.63%	18.48%	14.13%	26.09%	16.30%	4.35%
8f	New maps and signs would encourage me to try other transportation options	14.13%	19.57%	23.91%	21.74%	17.39%	3.26%

9	What should be done to help visitors or residents find their way around Portland?	High Priority	High-Med	Medium Pri	Low-Med	Low Priority
9a	Install a comprehensive system of signs to encourage walking around the city	48%	27%	20%	12%	0%
9b	Create a visitor smartphone navigation app	36%	20%	16%	12%	16%
9c	Install digital interactive street signs for events and directions	20%	36%	20%	16%	8%
9d	Produce detailed printed maps of City-wide routes, trails and attractions	16%	20%	24%	16%	16%
9e	Provide more neighborhood information at transit stops	36%	48%	12%	0%	4%
9f	Produce more neighborhood bicycle guide signs and parking directions	28%	30%	28%	8%	2%
9g	Produce more neighborhood vehicle guide signs and parking directions	15%	26%	30%	17%	13%
9h	None of these	0%	0%	13%	8%	77%

10	**Do you have any other suggestions or ideas about wayfinding in Portland**
	38 verbatims
10.1	I think Travel Portland should invest more purchasing in the two most used tourism publications in the hotels to increase the quality of these maps and additional information that makes it easier for the front line industry to direct guests, The Portland Walking Map and the Where To Eat Guide. I also believe that this survey should be mailed out to the hospitality frontline industry association, Pacific NW Experience.
10.2	Adhere wayfinding maps to the outside of the loo at each of its locations
10.3	We have a GPS navigation app company! Together Anywhere Audio Guides. Just launched our first two drives this summer. More to follow. Would love to connect about possibilities with this.
10.4	I live in Beaverton, and I like their way finding signs, especially the one at the Library.
10.5	Call out main streets and grids, often just explaining to lost visitors that this district is alphabetical and numerical helps then give directions. Current street wayfinding signs are out of date - more major attraction signs on major roadways could also help our increasing tourism. Phone maps are very helpful if you know where you want to go - you can get directions without a new app, but for exploring what is around you to discover, I use apps like Yelp and Google maps. It might work, but people hesitate to add more apps to their phones these days - I do tell people to get the PDX Art app and that is a great one to discover public art and know more about each statues history. It needs to add real value over what is available, and map maker for neighborhood maps also makes an app - maybe help promote what is already built than trying to build another ship?
10.6	Wayfinding? Really? Oy.
10.7	Retail locations should be considered landmarks. Restaurants seem to get plenty of exposure while shopping appears to be somewhat invisible to the visitor. Whenever I tell a visitor that there is no sales tax in Oregon, they are surprised. This is a benefit for our visitors that is not being used.
10.8	Curated walking/transit maps focusing on different interests could be very usable and helpful. For instance: a walking map of SE Portland breweries and beer bars or a transit map of all Portland parks with a list of their amenities. Other curated map ideas: cideries, distilleries, coffee roasters, tea houses, comic book stores, music stores, book stores ... Or maybe an app could have a function that would create the perfect walking map based on specific details like start/stop points and interests.
10.9	Embed a NFC or RFID into signs where visitors are able to quickly receive information about what is around them. For example a map may be transmitted showing attractions, restaurants, shops within a 1 mile radius.
10.11	Install street signs that can be read at night (reflective).
10.12	Keep them clean and graffiti free, many signs look like the city hasn't cleaned them ever
10.13	I suggest not creating something new - but augment and improve what we already have or what the marketplace is already providing. For example, how can we provide information to google regarding where complete / ADA accessible sidewalks are? Let's lobby for scooter directions that take into account no-ride zones. And if we invest in signs, ensure that we invest in historically undeserved neighborhoods first. I find bike wayfinding signs incredibly useful, as a resident of Portland and as a visitor to other cities.
10.14	Portland needs a single system of integrated multi-modal wayfinding (transit, bike - including bike share - ped walking maps)
10.15	Including a QR code with all of the above info, would that a tough task? Almost everyone has a reader app. For those that don't, we can offer a downloaded version from the TriMet website that they can access from their hotel or prior to their trip, print and bring along. If we had a way for someone to scan a code and have it offer directions, restaurants close by, attractions and transit options, I think that would be a good start. If that's the direction the visitor smartphone navigation app is heading, then yes! Most are directionally challenged and have no idea NSEW, including a compass of sorts would be great, too.
10.16	Digital is important, but can't substitute for a robust on-the-ground network that uses icons and easy-to-understand directions/orientations for folks that don't speak the language or don't have access to a smartphone.
10.17	Market at hotels, in garages and near highways for options that encourage people to get out of traffic and onto transit, bikeshare, etc. Highlight ease/speed/cost of taking MAX between airport, Lloyd, downtown, Tram, etc.
10.18	Change out the street name signs, as some are faded and difficult to read. Same with striping and road markings.
10.19	1 - Use fewer words, more images in wayfinding (consult international best practices). US signs are too word-heavy, which is not good for populations whose native language may not be English. Please include commercial destinations and not only "public" ones. 2 - Have consistent wayfinding standards/styles (not the way that the Lloyd District has one style, the OMSI vicinity has one. Plus, the OMSI area wayfinding signs stink and are misleading!) 3 - put them in prominent locations and high enough so they are not targets for vandalism (as happened in the Lloyd District). You need money for maintenance (unlike in the Lloyd District where they have become an eyesore in certain locations) 4 - Your question 4 should have different break points and is badly designed. It's not realistic to have 0 to 15 as your smallest amount, and 90+ as your top. And is it the whole trip in aggregate? Each way? Not clear from the question format. 5) More bicycle signage in OUTER neighborhoods to encourage walking to nearby commercial destinations and the like.
10.2	People are increasingly turning to their smartphone for information and directions. Signage is expensive to create, install and maintain and becomes obsolete quickly. Keep it digital- perhaps with prompts around "Scan here for more information!"

10.21	In neighborhoods I'm not familiar with, I've had a great experience just following the bikeway signs/arrows painted on streets. But sometimes when there's construction or re-paving, those arrows or signs are removed, I'll miss a turn and get routed somewhere horrible (i.e. Portland's arterial streets). Signs and arrows need to be reinstalled/repainted immediately after construction!
10.22	Yes. Update the VERY outdated way finding signs all over town. They have been out of date since before the green line opened. Whan I called the city about six years ago, they said they could do nothing to fix them. I said they could at least cover the old, misleading info, including transit, which totally confuses folks - I know because I've helped many a bewildered person standing in front fo one. New signs need to be updated regularly, though need for signs may be much less if there is info readily available online.
10.23	In another city I visited they have people in the Downtown area that will help answer questions on where to go, that was something I found very helpful when I was trying to figure out
10.24	Don't create an standalone app; instead integrate into existing apps like Biketown, transit, or Google Maps
10.25	Better street lighting and improved roadways. More sidewalks and walking paths away from roadways. Create some form of map our guide to all the culturally relevant spots and locations in town (i.e. locations from films, music venues where famous bands/artists got their start, etc.)
10.26	update or remove those monument style visitor map wayfinding signs that were implemented over 10 years ago. They are out of date and rarely if every have been updated.
10.27	I like Link NYC in New York City. It works as information board as well as Free Wi-Fi station. Much needed for international visitors without cell phone service.
10.28	Signs that change pointing to Events. ie ... if in Old Town the sign might display what is happening at Noon at Directors Park.
10.29	Improve Trimet's TripPlanner function on their app. I tend to then use Google maps for transit planning but the times aren't as accurate as Trimet.
10.3	A phone app covers it all, is cost-effective and efficient
10.31	Make them accessible in other languages. Maybe a QR code on physical signs that would translate it to another language on people's phones?
10.32	consistency throughout should be top priority and a plan for Portland growth. Example is 82nd ave. While further out now it will quickly become a place for many communities visiting.
10.33	Increased signage re: proper scooter use and rules. Increased bike infrastructure and signage.
10.34	More bike signage
10.35	A visitor smartphone navigation app makes sense to me if it is designed to be compatible with or as an extension of digital, interactive kiosks or street signs. The same goes for printed maps. Max, streetcar and bus stops seem like very logical locations for providing more extensive, street-based information about the surrounding areas. Static, installed signage that stays in place and does not change for 10 years does not make as much sense for today's visitors.
10.36	Bus route stops along the way to destination on signs at bus stops like they have in Rome. Complete list of stops instead of just the main ones. Most Tri-Met schedules do not include all the stops. Street level directional signs to major attractions like in Old Town but more visible.
10.37	If the streets were safer, it wouldn't be as big an issue to get lost on foot/bike/bus. But one wrong turn and you could find yourself biking on Burnside or trapped on the wrong side of Sandy. Make the destination streets more people-oriented so that visitors aren't shuffled to the side streets.
10.38	Route markers installed in the sidewalk

Background

Expert interviews

As part of the research phase the consultant team offered one-to-one calls with stakeholders to dive more deeply into objectives, concerns and opportunities for a coordinated wayfinding system.

As of August 9, staff at TriMet, OHSU, PBA, PSU, PBOT and CEIC have been interviewed.

2

Background

Expert interviews

Headlines:

- Portland is Oregon's big city as well as a tourist destination it should be coordinated and accessible without relying on smartphone apps which not everyone has or uses
- There is limited preparation so far for Oregon21 and the solution needs to work for the city over the long term. Focusing on one event as the catalyst for a new city wayfinding project might be misguided
- New districts are growing but feel disconnected from the heart of the city and hidden from visitors
- PedPDX sets out goals for walkability but has to focus first on fundamental issues of pedestrian safety and basic infrastructure gaps. Wayfinding is a different priority
- There is no appetite for public spending on a replacement without ongoing maintenance funding being secured. Operational funding will require creativity and partnerships
- There is a tension between what PBOT can include on maps and the real information visitors are interested in. Can broader guidelines be produced that PBOT will accept?

3

Background

Expert interviews

Headlines cont'd:

- Others have or are preparing mobility and pedestrian plans that suggest this is a good time to agree a coordinated approach to wayfinding
- There is a slow decline in transit ridership. Simplifying first-last mile connections are part of a solution to improve attractiveness and utility of services that TriMet is already committed to addressing
- There are opportunities to raise capital and operational funds from partner agencies Some existing revenue could be diverted from local sources provided PBOT takes the lead as owners of the right of way
- It should be possible to share central assets such as maps and design standards This would allow coordinated delivery and new ideas, provided there is room for individual brands to be preserved
- In-kind contributions and knowledge-sharing could be considered A more inventive approach to wayfinding such as digital innovations and community projects could generate support and funding

4

Background

Recommendations

The interviews produced a handful of recommendations:

1. There is no pot of funding waiting for a new wayfinding project. A proposal to PBOT needs to compete with basic safety and infrastructure priorities and secure new sources for operational costs
2. There are partner plans and interest to support PBOT in designing a coordinated permanent project as soon as resources allow. These commitments rely however on PBOT showing leadership
3. An approach that is broader than signs and more collaborative; sharing standards but allowing brand identity and richer content, would draw partners to follow a coordinated system
4. Oregon21 could be present a need that justifies a pilot but should not distract from the correct solution for Portland

5

applied_
wayfinding